United States Environmental Protection Agency

U.S. EPA's Water Laboratory Alliance Tools, Exercises, and Ongoing Research



National Environmental Monitoring Conference

Washington, DC

August 13, 2010

Session Agenda

EPA United States Environmental Protection Agency

- **Environmental Response Laboratory Network (ERLN)**
  - Terry Smith, EPA Office of Emergency Management
- **Water Laboratory Alliance (WLA) Overview & Programmatic Activities**
  - Latisha Mapp, EPA Office of Water
- **WLA-RP & Laboratory Response Exercises**
  - Adrian Hanley, EPA Office of Water
- **Water Contaminant Information Tool (WCIT) & Laboratory Compendium Demonstration**
  - Greg Beuemel, CSC

EPA
United States
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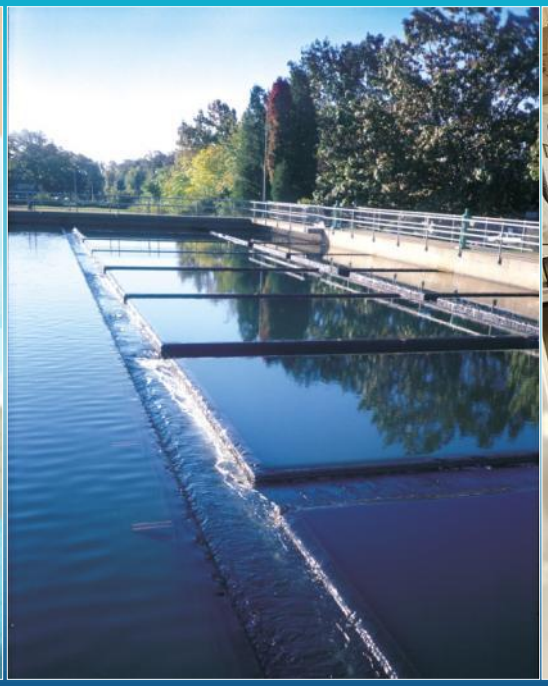
Agency

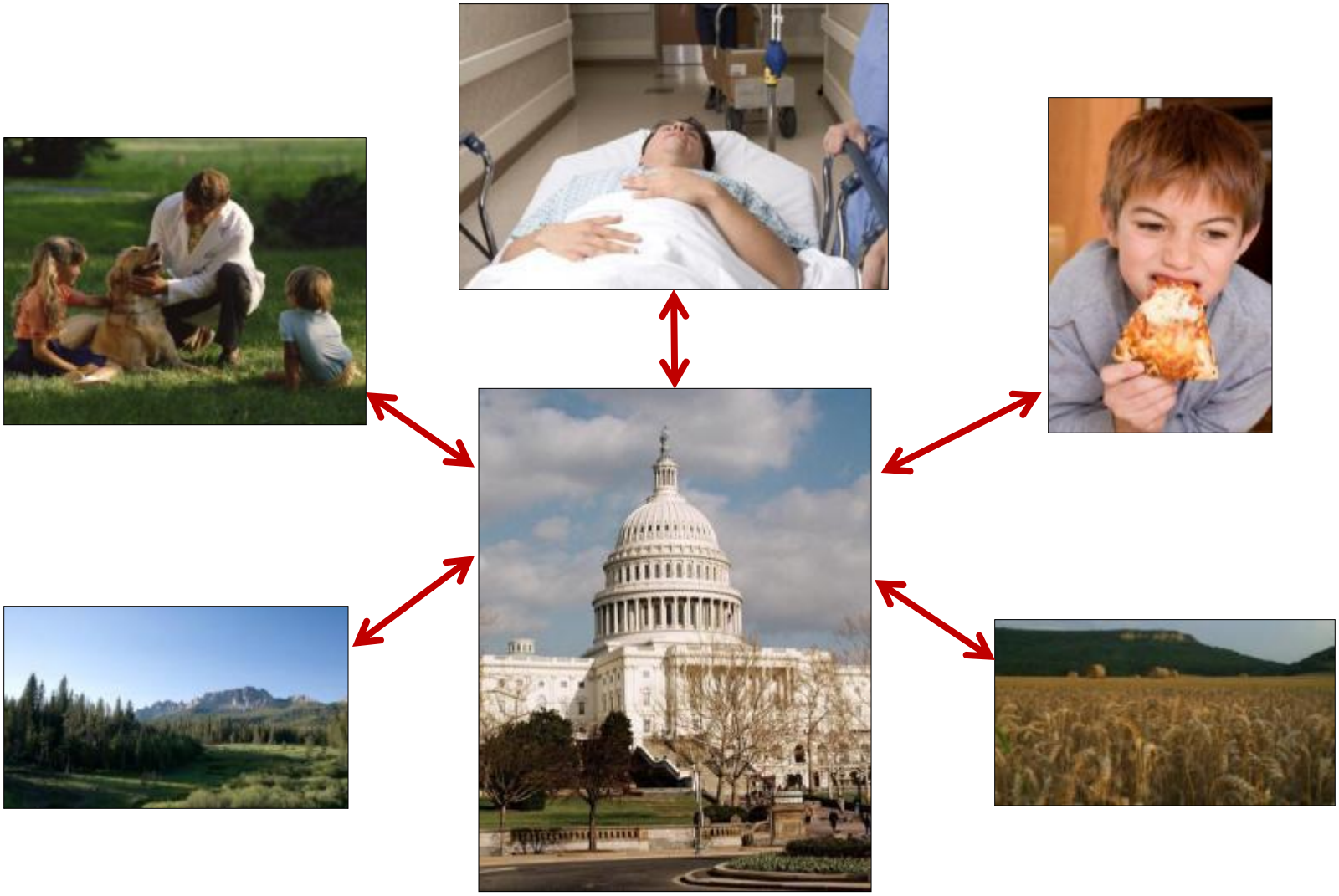
Environmental Response Laboratory Network


Terry Smith, EPA

National Laboratory Initiatives

United States Environmental Protection Agency



Integrated Consortium of Laboratory Networks (ICLN)

United States Environmental Protection Agency

- ICLN created in response to:
  - Homeland Security Presidential Directives (HSPDs)
  - Need for agency coordination
- Goal: Create a U.S. Homeland Security infrastructure that would provide an interoperable system of (Federal) laboratory response networks
- ICLN is hosted by Department of Homeland Security (DHS)
- ICLN was created in 2005
  - Ten federal agencies are signatories: USDA, DoC, DoD, DoE, HHS, DHS, DoL, DoJ, DoS, and EPA

Integrated Consortium of Laboratory Networks (ICLN)

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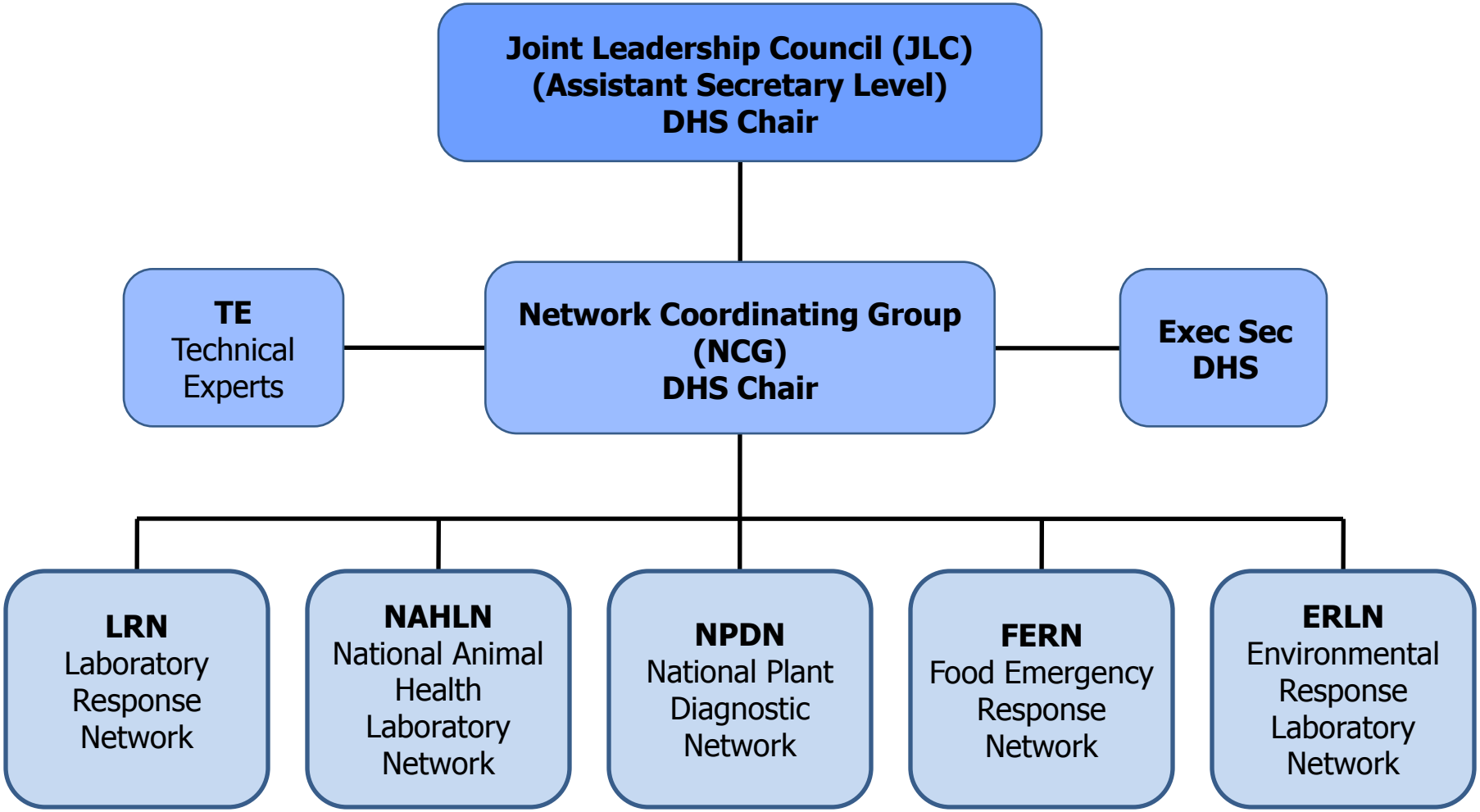

Responsible Federal Agency Matrix

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	Chemical				Biological				Radiochemical			
	Lab Support to Phase of Response				Lab Support to Phase of Response				Lab Support to Phase of Response			
Sample Matrix	Monitoring/ Surveillance	Incident Response	Remediation	Forensics	Monitoring/ Surveillance	Incident Response	Remediation	Forensics	Monitoring/ Surveillance	Incident Response	Remediation	Forensics
Human Clinical		HHS	HHS	FBI	HHS	HHS	HHS	FBI		HHS	HHS	FBI
Environmental		EPA	EPA	FBI	Multiple	Multiple	EPA	FBI	EPA	DOE/ EPA	EPA	FBI
Food	USDA/ HHS	USDA/ HHS	USDA/ HHS	FBI	USDA/ HHS	HHS/ USDA	USDA/ HHS	FBI	USDA/ HHS	USDA/ HHS	USDA/ HHS	FBI
Animal		USDA	USDA	FBI	USDA	USDA	USDA	FBI		USDA	USDA	FBI
Plant	USDA	USDA	USDA	FBI	USDA	USDA	USDA	FBI		USDA	USDA	FBI
Drinking Water	EPA	EPA	EPA	FBI	EPA	EPA	EPA	FBI	EPA	EPA	EPA	FBI

White: capability is/can be established within the department.
Green: capability in place through agreements.
Yellow: capability not in place, agreements needed.

What is the ERLN?

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- Network of Laboratories
- Member of the ICLN
- Addresses chemical, radiochemical, and limited biological threats during environmental responses and nationally significant incidents

ERLN
Environmental Response Laboratory Network

Why is the ERLN Important?

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- Creates an all hazards/all environmental media laboratory network
  - Chemical Agents (including toxic industrial chemicals and chemical warfare agents)
  - Biological Agents
  - Radiochemical Agents
- Addresses preparedness, response, remediation, and recovery activities
- Has established procedures/practices that allow for day-to-day use and can seamlessly support incidents of any scale
- Provides a network of laboratories with known quality
- Supports the needs of the response community

Components of the ERLN

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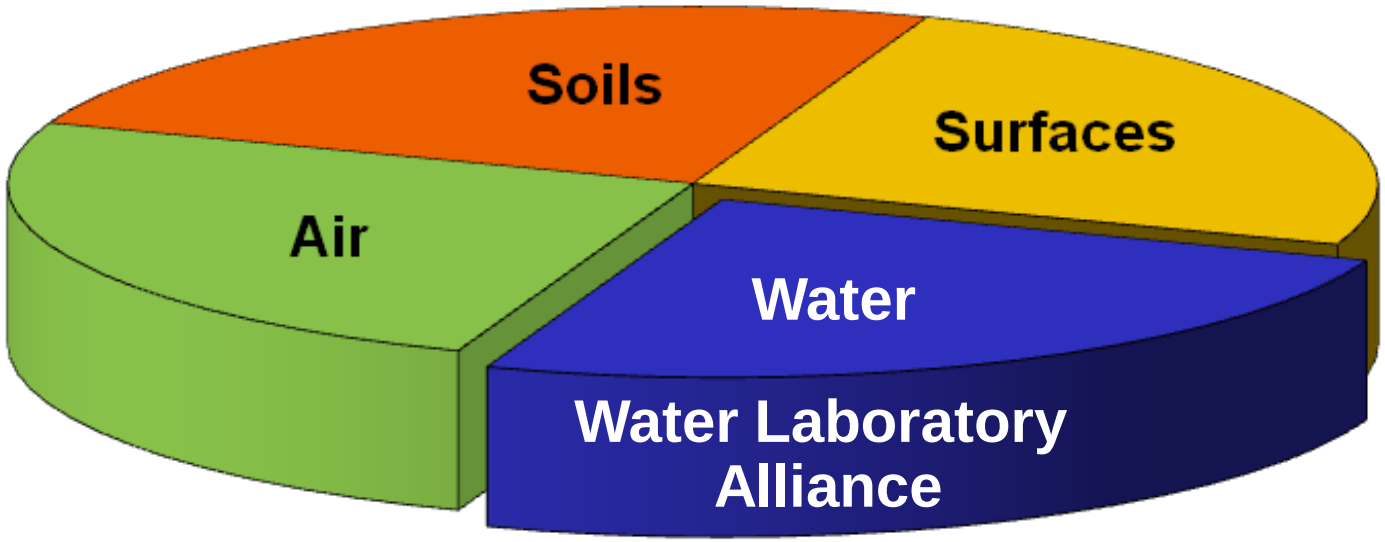
The WLA focuses solely on water and is an integral part of EPA's ERLN

Environmental Response Laboratory Network (ERLN)



ACCESSING THE ERLN

ERLN

IDENTIFY ANALYTICAL SERVICES & ERLN LABORATORIES

1. Identify Analytical Needs
2. Develop Project's Measurement Quality Objectives
3. Access ERLN
   - Identify Laboratory Resources & Assess Capabilities vs. Needs
   - Use EPA Lab Compendium: www.epa.gov/compendium

EXECUTE PROJECT

4. Choose ERLN Laboratory(ies)
5. Ship Samples
6. Monitor Progress
7. Receive Data

COMPLETE ERLN LABORATORY AGREEMENT

8. Evaluate Data
9. Ensure Laboratories are Compensated Appropriately

What is a Basic Ordering Agreement?

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- A Basic Ordering Agreement (BOA) is a written instrument of understanding
- Negotiated between EPA and a contractor (state, local, municipal, or commercial laboratory)
- Contains the following:

1. Terms and clauses applying to future purchase orders between the parties during its term;
2. Description, as specific as practicable, of supplies or services to be provided; and
3. Methods for pricing, issuing, and delivering future purchase orders under the BOA.

BOA, cont.

United States Environmental Protection Agency

A BOA is NOT a contract, but rather, an agreement!

- Primary mechanism used with state, local, municipal, and commercial laboratories for performing analytical services for the ERLN and the WLA

- Must be an ERLN/WLA Member laboratory to enter into a BOA!

How is Work Ordered?

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- EPA orders services from BOA holders:
  - Directly from the laboratory (sole source)
  - Competitive basis
- Sole-source purchase orders may be issued during:
  - National emergencies
  - Other EPA defined specific incidents (case-by-case basis)
- All other times, Request for Quote (RFQ)
- The RFQ and purchase order detail the level of effort and:
  - Specific site or incident
  - Description of services
  - Size (e.g. how many samples)
  - Analytical method(s)
  - Reporting
  - QA/QC
  - Payment terms

ERLN - Phase 1

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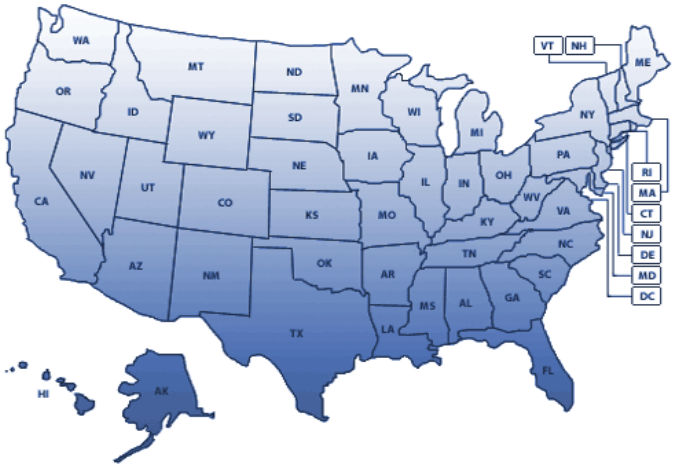
PHASE 1: 18 member laboratories

- **15 EPA Regional and Program Laboratories**
- **2 State Laboratories**
  - FL DEP
  - VA DCLS
- **1 Federal Laboratory**
  - LLNL



ERLN - Phase 2

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PHASE 2 solicitation open: Seeking State, Federal, local, and commercial laboratories

- Received 104 applications
- Approved a total of 73 ERLN/WLA members and 2 ERLN-only members
- Currently reviewing 31 applications
- Anticipated Membership: Could include over 700 laboratories
  - Easily accessible information: Launch of ERLN Web site (http://www.epa.gov/erln)

ERLN/WLA Requirements

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- Quality Management System (QMS)
- Analytical capabilities/capacities for chemical, biological, and/or radiological contaminants
- Participate in proficiency testing program
- Submit to audits as appropriate
- Meet laboratory specific health and safety requirements
- Participate in Laboratory Compendium

For more information: http://www.epa.gov/erln/

Application Review Process

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Step 1: Laboratory submits ERLN Application Packet to EPA

Step 2: Laboratory notified of membership status via email within 60 days of receipt of application

Step 3: Laboratory may be contacted for additional information or documentation

How to Join

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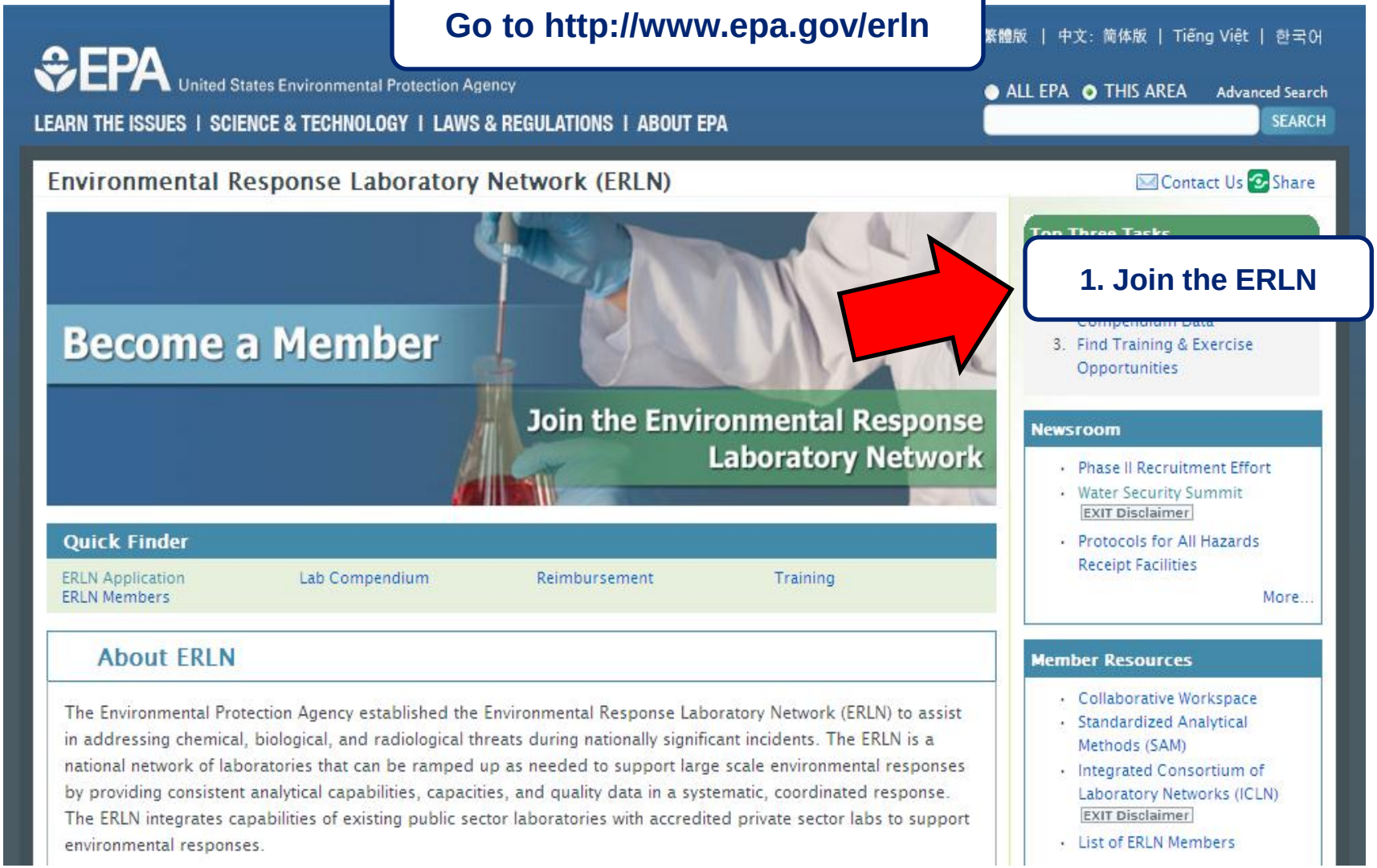
Go to http://www.epa.gov/erln



How to Join, cont.

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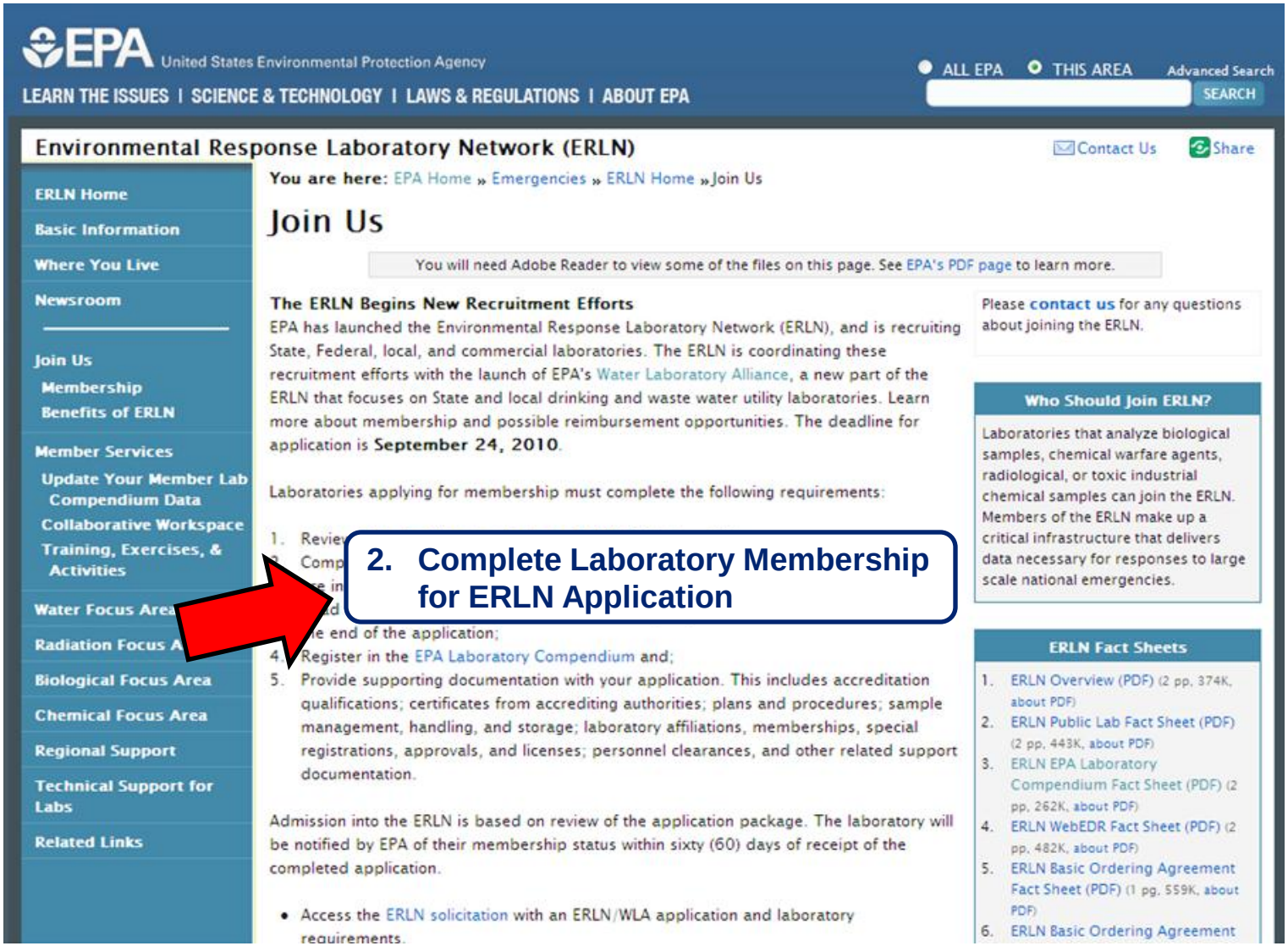

How to Join, cont.

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6. ICLN Laboratory – Please indicate if your laboratory participates in any of the following Integrated Consortium of Laboratory Networks (ICLN) member networks:

Affiliation and Membership	Yes	No	Comments
6.1. Food Emergency Response Network (FERN)			
6.2. Laboratory Response Network (LRN) - Chemical			
6.3. Laboratory Response Network (LRN) - Biological			
6.4. National Animal Health Laboratory Network (NAHLN)			
6.5. National Plant Diagnostic Network (NPDN)			

Laboratory Acknowledgment of ERLN Membership Requirements

I confirm that our laboratory has thoroughly reviewed the ERLN Laboratory Requirements Document, Policy for Membership in the ERLN, and Laboratory Membership for EPA's ERLN. I understand the requirements stated in this documentation. P…quirements. Therefore I accept t…

I also accept the responsibilities of the WLA Laboratory Membership: ✓Yes □No □N/A

Signature of Laboratory Director

Date

Printed Name, Title

Membership Decision Tree

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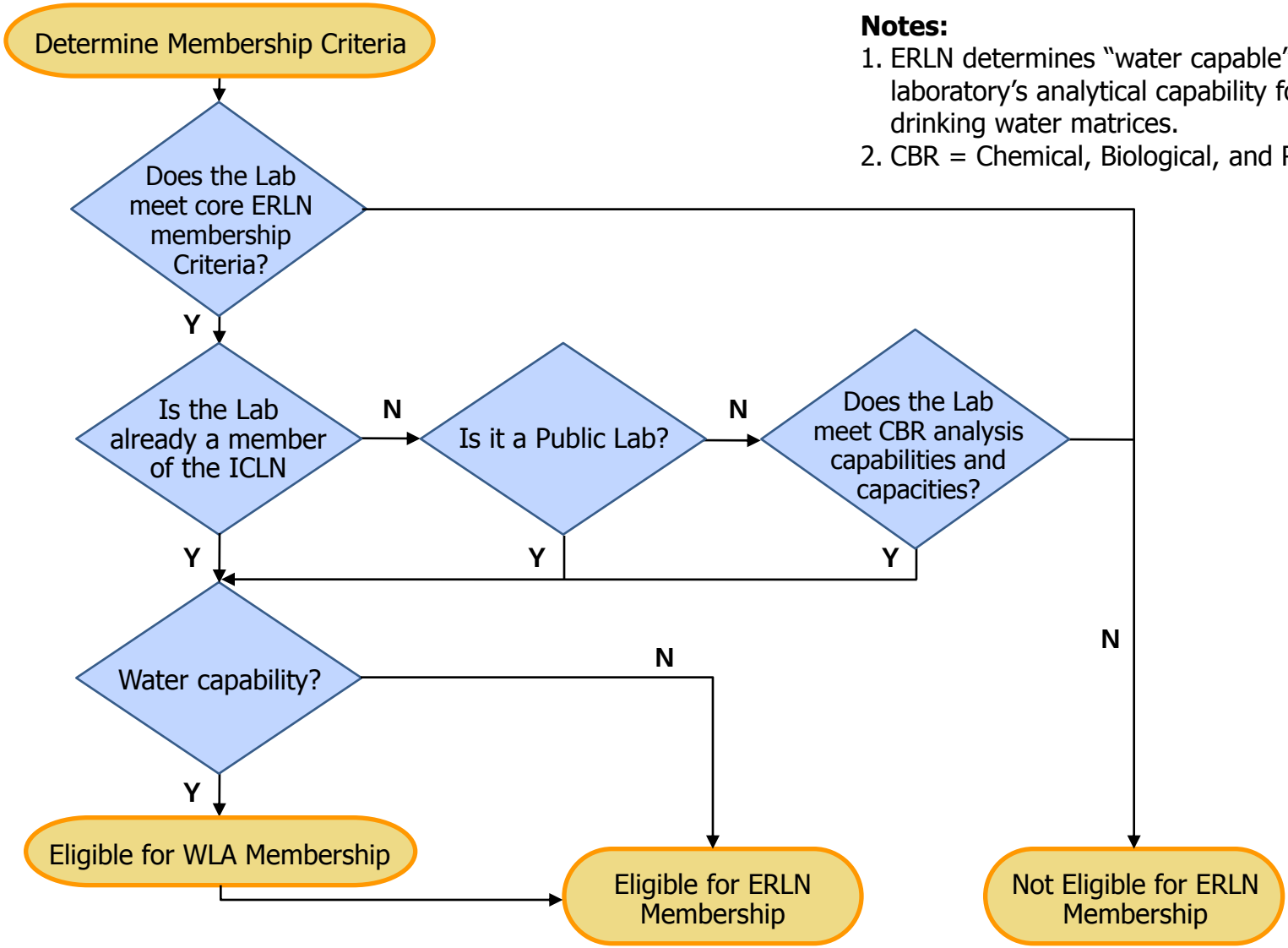

Notes:

1. ERLN determines "water capable" by a laboratory's analytical capability for water or drinking water matrices.
2. CBR = Chemical, Biological, and Radiological

ERLN Provides User Tools

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Compendium of Environmental Testing Laboratories (Lab Compendium)

- Online database of environmental laboratories
- Contains laboratory-specific capabilities to analyze chemical, biological, and radiological contaminants
- Will be demonstrated after the break

ERLN Tools, cont.

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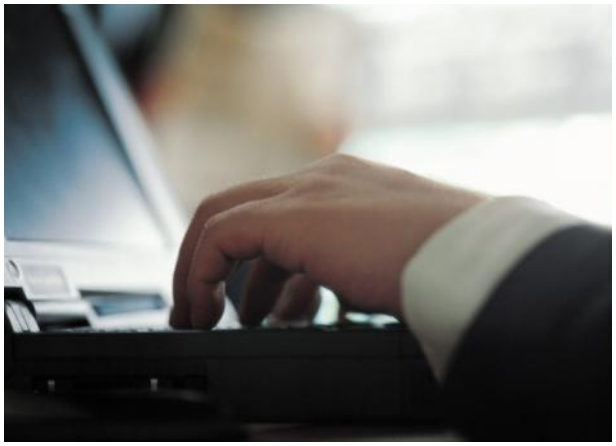
Web-based Electronic Data Review (WebEDR)

- Performs automated data evaluation of ERLN electronic data deliverables (EDDs)
- Uses tests derived from the National Functional Guidelines (NFG) for data evaluation and review combined with method-defined limits to measure data
- Serves as a review tool for EPA Data Reviewers to see how the data performed during the quality assessment
- Performs standardized evaluation of the overall quality of the data and provides reviewers with tools to measure the data against different measurement quality objectives (MQOs)

Contact Information

United States Environmental Protection Agency

ERLN



For comments and questions on the ERLN, please contact:

Terry Smith, US EPA
Office of Emergency Management
Phone: 202-564-2908
E-Mail: smith.terry@epa.gov

- Contact ERLNhelpdesk@fedcsc.com
- ERLN/WLA Helpline: 703-818-4200
- Visit http://www.epa.gov/erln

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Water Laboratory Alliance

Latisha Mapp, EPA

What is the WLA?

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The Water Laboratory Alliance (WLA) provides the Water Sector with an integrated nationwide network of laboratories

The WLA is composed of drinking water, public health, environmental, and select commercial laboratories

What does the WLA Address?

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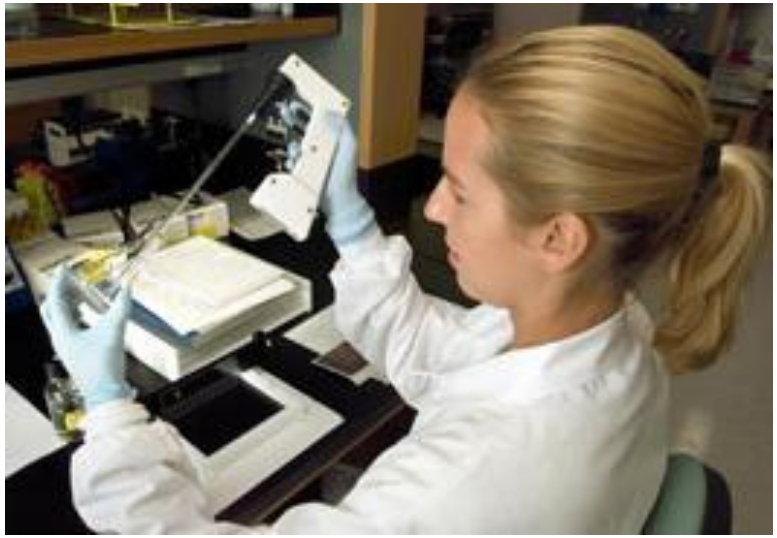
This network of laboratories offers capabilities and capacity to analyze drinking water in the event of:

- natural,
- intentional, or
- unintentional water contamination

Involving:

- chemical,
- biological, or
- radiochemical contaminants



WLA Launch

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- First tier of WLA membership launched in conjunction with ERLN Phase 2 on September 30, 2009
- Plans are underway for addressing Tier 2 laboratories that do not meet criteria for full membership

WLA Benefits

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- Improved Water Sector preparedness for response to water contamination incidents
- Improved communications
- Water security-related training opportunities
- Opportunity to participate in EPA-funded response exercises
- Access to additional analytical capability and capacity
- Validated methods for unregulated contaminants

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Programmatic Overview: Training, Tools, Methods, & Liaisons

WLA Training Center

United States Environmental Protection Agency

- **Scope**
  - The WLA Training Program will target key stakeholders with a vested interest in the safety and security of water supplies. Examples of these include, but are not limited to:
    - WLA members
    - ERLN members
    - State public health and environmental laboratories
    - Utility laboratories
    - Commercial laboratories
    - Water utilities
    - First responders

WLA Training Center, cont.

United States Environmental Protection Agency

Purpose: To familiarize WLA member laboratories, WLA users, and Water Sector stakeholders, with:

- WLA response procedures
- Analytical methods
- Sample handling recommendations, including chain of custody
- Data reporting
- Supporting tools

WLA Training Center, cont.

United States Environmental Protection Agency

Curriculum Format

- Due to travel restrictions for many states, enhanced computer-based training will be used when in-person training is not an option
- May also use established conferences, meetings, and exercises as venues for in-person training in some cases

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WLA Tools and Resources

Water Contaminant Information Tool

United States Environmental Protection Agency

- The Water Contaminant Information Tool (WCIT) is EPA's secure Web-based database of information on priority contaminants of concern for "all-hazards" in drinking water and wastewater systems:
  - Released in 2005
  - Update in 2009 resulted in complete contaminant profiles on 102 contaminants that pose a serious threat if accidentally or intentionally introduced into water systems
  - Further expansion in 2010 to include methods information on 647 contaminants

Sampling Guidance

United States Environmental Protection Agency

Sampling Guidance for Unknown Contaminants in Drinking Water

- Integrates sample collection, preservation, and transport procedures
- Provides an example of what is required for a comprehensive sampling program
- Supplements emergency response plans
- Includes helpful resources, including approaches to collaborate with other agencies

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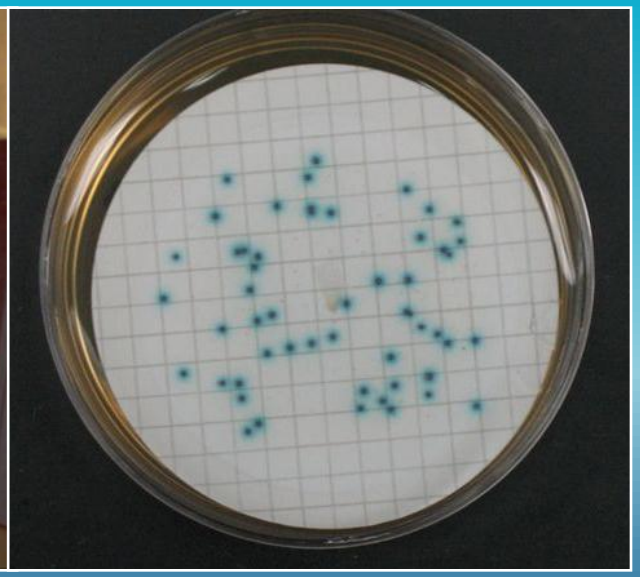
Chemical, Radiochemical, and Biological Methods



Priority Drinking Water: Chemical & Radioactive Contaminants

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WSD identified Priority Contaminants in 2005

- 33 Chemical Contaminants
  - Pesticides, rodenticides, herbicides, cyanide compounds, organometallic compounds, CWAs, metal salts, pharmaceuticals, PCBs, fuels, fluorinated compounds
- 7 Radioactive Isotopes
  - Alpha, beta, and gamma emitters
- Selected based upon
  - Potency
  - Stability in drinking water
  - Solubility
  - Availability

Existing Chemical Drinking Water Methods

United States Environmental Protection Agency

20 of 33 priority chemical contaminants (or components*) were already on the list of analytes for existing drinking water methods

- *e.g., sodium arsenite can be detected by ICP/MS as arsenic

All 7 radioactive isotopes could be either detected or screened using existing methods routinely used for drinking water

Validation for Chemical Contaminants in Drinking Water

United States Environmental Protection Agency

The first attempt to validate methods for the remaining 13 chemical contaminants was to analyze using existing methods

- Some of the methods were adequate for screening

One method was successfully single and multi-laboratory validated for the two fluorinated organic compounds

LC-MS Screening Single Laboratory Validation Study

EPA United States Environmental Protection Agency

Initiated to address gaps in capability not resolved by previous method development work

Direct injection LC-MS in full scan mode allows for rapid screening of many contaminants with little preparation time

Analytical results show that LC-MS screening can detect 13 priority contaminants, 6 of which are not included in any drinking water method

Biological Single-Laboratory Verification Studies

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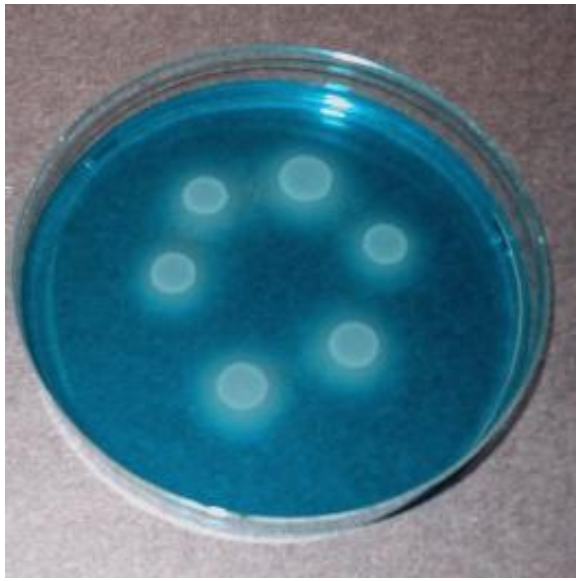
- ***E. coli* O157:H7**
- **Non-typhoidal *Salmonella***
- ***Salmonella* Typhi**
- ***Vibrio cholerae* O1 and O139**



Salmonella spp. produce halos indicating motility on MSRV plates

Biological Next Steps: Multi-Laboratory Validation Studies

United States Environmental Protection Agency

- **Non-typhoidal *Salmonella***
  - 10 volunteer laboratories
  - Drinking water and surface water
  - Assess method performance and reproducibility
  - Develop quantitative quality control (QC) criteria

- ***E. coli* O157:H7**
  - **Preliminary analyses prior to multi-laboratory validation:**
    - Strain evaluation
    - Evaluation of Rainbow® agar

Biological Methods, cont.

United States Environmental Protection Agency

- WLA utilizes CDC's Laboratory Response Network (LRN) protocol for concentrating large volumes (up to 100 L) of water
  - Recently developed QC criteria to help ensure lab proficiency
  - Disadvantage of LRN UF Protocol: Requires transfer of 100-L samples from the field to the lab

Next Steps

- Continue collaborating with CDC and others to implement a *field-portable* UF device
- Implement QC criteria for the LRN UF protocol
- Collaborate with CDC to optimize the LRN Biothreat protocol for water
- Expand number of approved select agent labs for water

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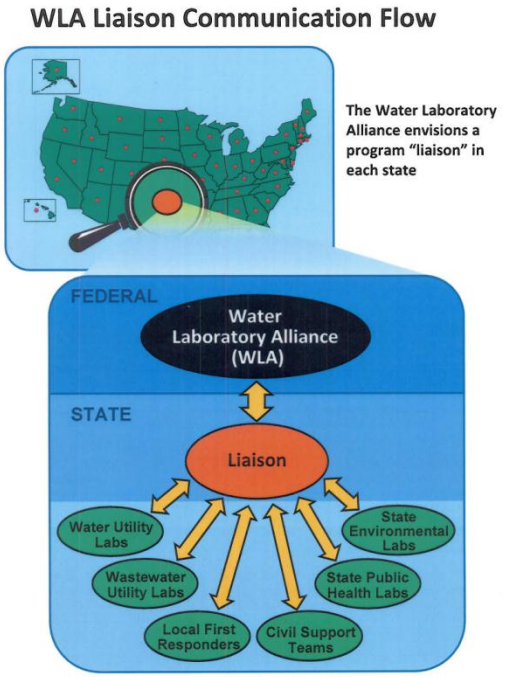
ERLN/WLA Liaisons

ERLN/WLA Liaisons

United States Environmental Protection Agency

ERLN/WLA relies on Liaisons to:

- Evaluate and maximize the use of new tools and resources
- Disseminate all WLA information
- Establish and recruit for the WLA network
- Coordinate a relationship between EPA and key stakeholders in your state
- Relay concerns from your state to EPA
- Identify Water Sector needs and improvements to the WLA



Liaison Locations

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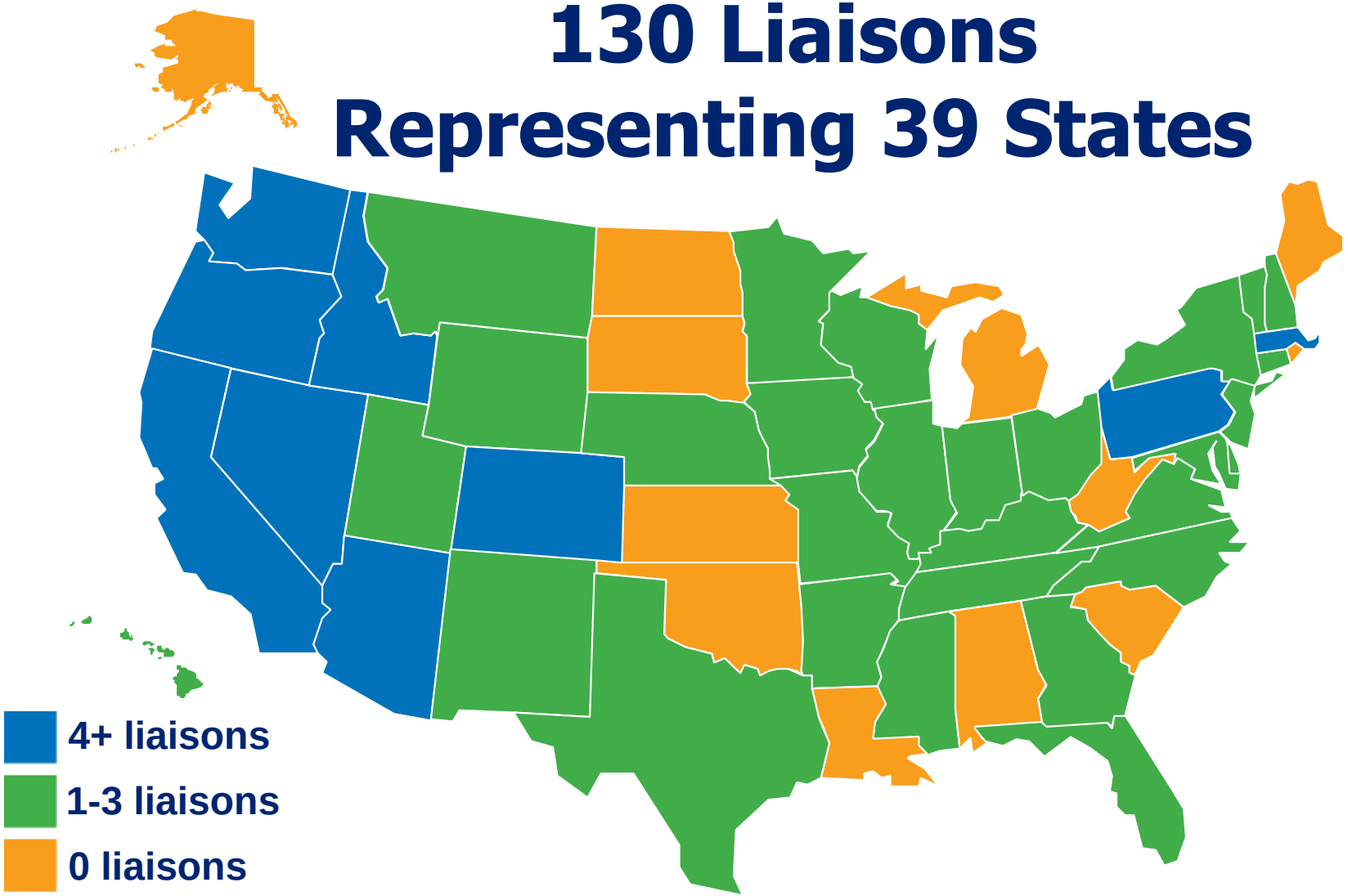
130 Liaisons Representing 39 States



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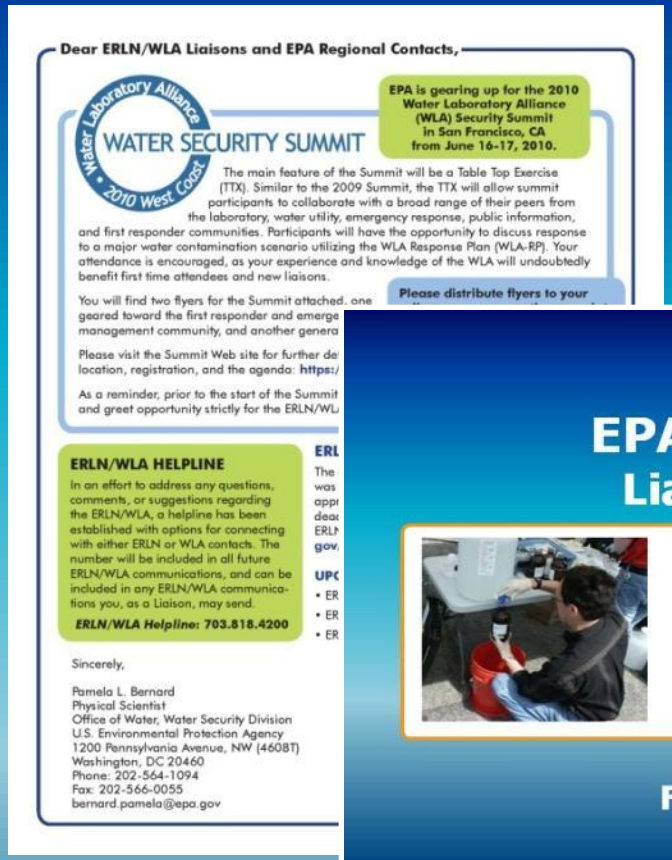


Dear ERLN/WLA Liaisons and EPA Regional Contacts,

Water Laboratory Alliance
WATER SECURITY SUMMIT
2010 West Coast

EPA is gearing up for the 2010 Water Laboratory Alliance (WLA) Security Summit in San Francisco, CA from June 16-17, 2010.

The main feature of the Summit will be a Table Top Exercise (TTX). Similar to the 2009 Summit, the TTX will allow summit participants to collaborate with a broad range of their peers from the laboratory, water utility, emergency response, public information, and first responder communities. Participants will have the opportunity to discuss response to a major water contamination scenario utilizing the WLA Response Plan (WLA-RP). Your attendance is encouraged, as your experience and knowledge of the WLA will undoubtedly benefit first time attendees and new liaisons.

Please distribute flyers to your

You will find two flyers for the Summit attached, one geared toward the first responder and emerge management community, and another genera

Please visit the Summit Web site for further de location, registration, and the agenda: **https:/**

As a reminder, prior to the start of the Summit and greet opportunity strictly for the ERLN/WL

ERLN/WLA HELPLINE

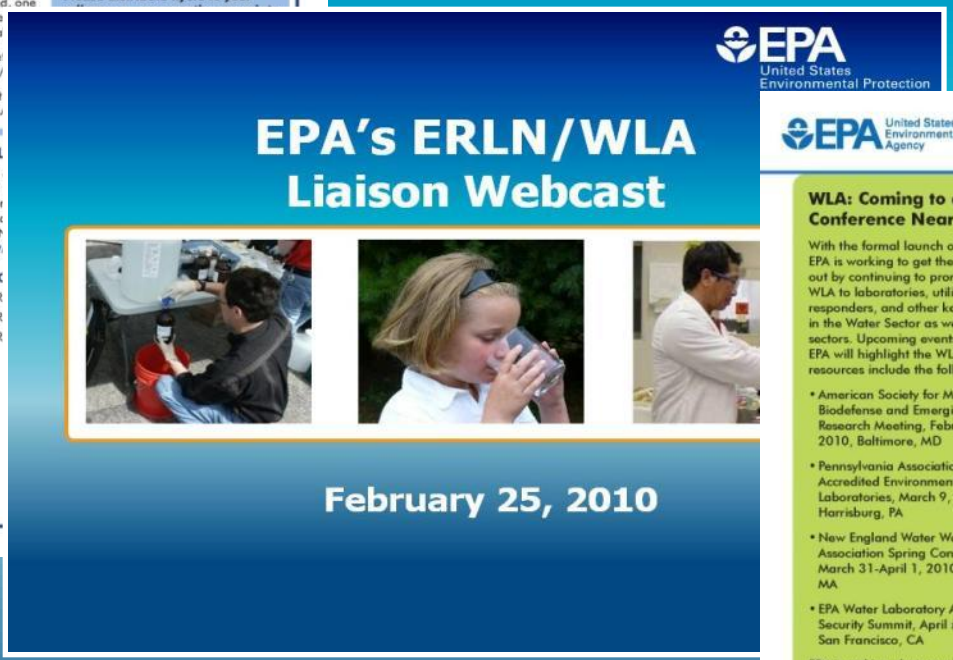
In an effort to address any questions, comments, or suggestions regarding the ERLN/WLA, a helpline has been established with options for connecting with either ERLN or WLA contacts. The number will be included in all future ERLN/WLA communications, and can be included in any ERLN/WLA communications you, as a Liaison, may send.

***ERLN/WLA Helpline:* 703.818.4200**

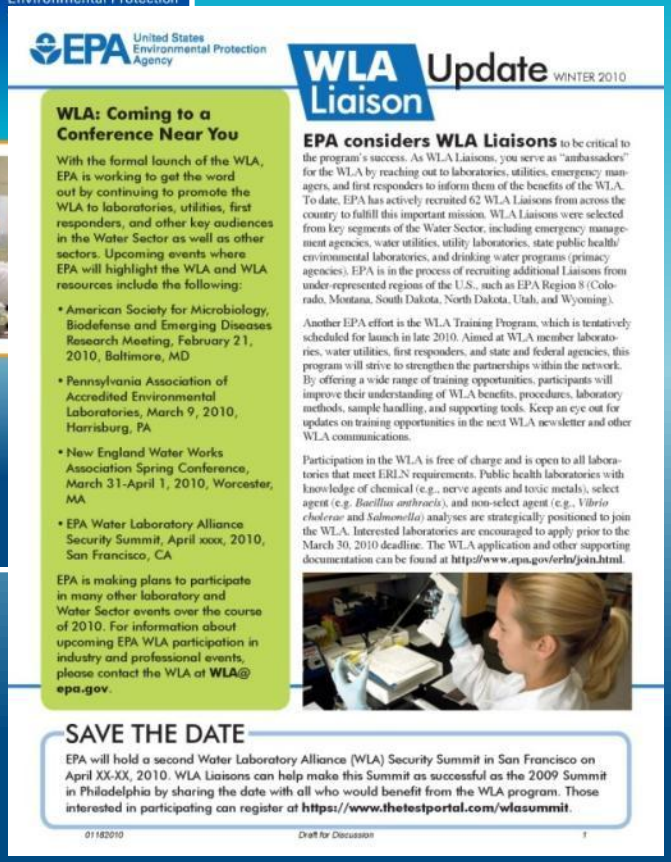
Sincerely,

Pamela L. Bernard
Physical Scientist
Office of Water, Water Security Division
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW (4608T)
Washington, DC 20460
Phone: 202-564-1094
Fax: 202-566-0055
bernard.pamela@epa.gov

Webcast



eBulletin



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WLA Liaison Update WINTER 2010

WLA: Coming to a Conference Near You

With the formal launch of the WLA, EPA is working to get the word out by continuing to promote the WLA to laboratories, utilities, first responders, and other key audiences in the Water Sector as well as other sectors. Upcoming events where EPA will highlight the WLA and WLA resources include the following:

- American Society for Microbiology, Biodefense and Emerging Diseases Research Meeting, February 21, 2010, Baltimore, MD
- Pennsylvania Association of Accredited Environmental Laboratories, March 9, 2010, Harrisburg, PA
- New England Water Works Association Spring Conference, March 31-April 1, 2010, Worcester, MA
- EPA Water Laboratory Alliance Security Summit, April xxxx, 2010, San Francisco, CA

EPA is making plans to participate in many other laboratory and Water Sector events over the course of 2010. For information about upcoming EPA WLA participation in industry and professional events, please contact the WLA at **WLA@epa.gov**.

EPA considers WLA Liaisons to be critical to the program's success. As WLA Liaisons, you serve as "ambassadors" for the WLA by reaching out to laboratories, utilities, emergency managers, and first responders to inform them of the benefits of the WLA. To date, EPA has actively recruited 62 WLA Liaisons from across the country to fulfill this important mission. WLA Liaisons were selected from key segments of the Water Sector, including emergency management agencies, water utilities, utility laboratories, state public health/environmental laboratories, and drinking water programs (primacy agencies). EPA is in the process of recruiting additional Liaisons from under-represented regions of the U.S., such as EPA Region 8 (Colorado, Montana, South Dakota, North Dakota, Utah, and Wyoming).

Another EPA effort is the WLA Training Program, which is tentatively scheduled for launch in late 2010. Aimed at WLA member laboratories, water utilities, first responders, and state and federal agencies, this program will strive to strengthen the partnerships within the network. By offering a wide range of training opportunities, participants will improve their understanding of WLA benefits, procedures, laboratory methods, sample handling, and supporting tools. Keep an eye out for updates on training opportunities in the next WLA newsletter and other WLA communications.

Participation in the WLA is free of charge and is open to all laboratories that meet ERLN requirements. Public health laboratories with knowledge of chemical (e.g., nerve agents and toxic metals), select agent (e.g. *Bacillus anthracis*), and non-select agent (e.g., *Vibrio cholerae* and *Salmonella*) analyses are strategically positioned to join the WLA. Interested laboratories are encouraged to apply prior to the March 30, 2010 deadline. The WLA application and other supporting documentation can be found at **http://www.epa.gov/erln/join.html**.

SAVE THE DATE

EPA will hold a second Water Laboratory Alliance (WLA) Security Summit in San Francisco on April XX-XX, 2010. WLA Liaisons can help make this Summit as successful as the 2009 Summit in Philadelphia by sharing the date with all who would benefit from the WLA program. Those interested in participating can register at **https://www.thetestportal.com/wlasummit**.

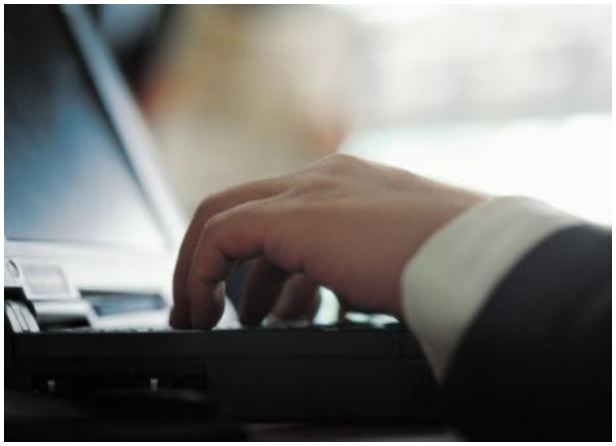
01182010 Draft for Discussion 1

Liaison Activities

Contact Information

EPA United States Environmental Protection Agency

WLA



For comments and questions on the WLA, please contact:

Latisha Mapp, US EPA
Office of Ground Water and Drinking Water
Phone: 202-564-1390
E-Mail: mapp.latisha@epa.gov

- Contact WLA@epa.gov
- ERLN/WLA Helpline: 703-818-4200
- Visit http://cfpub.epa.gov/safewater/watersecurity/wla.cfm

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WLA Response Plan (WLA-RP) & Full Scale Exercises

Adrian Hanley, EPA

Laboratory Black Box

United States Environmental Protection Agency

Often during emergency response, laboratories are treated as a black box for data generation:

Samples go in and data comes out.

Need for a Laboratory Response Plan

United States Environmental Protection Agency

- The events of 9/11 and natural disasters, like hurricane Katrina, highlighted the need for better laboratory coordination to water contamination events
- These types of larger events often require support from multiple laboratories
- This need was initially met by developing Regional Laboratory Response Plans (RLRPs) to coordinate laboratory response activities within an EPA Region

Contributors to RLRP Development

United States Environmental Protection Agency

- EPA WSD
- EPA OEM
- EPA Regional laboratories
- State environmental laboratories
- State public health laboratories

- Drinking water utility laboratories
- EPA and state drinking water programs
- EPA On-Scene Coordinators
- FBI
- National Guard Civil Support Teams (CSTs)

Laboratory Response: Next Steps

United States Environmental Protection Agency

Regional Laboratory Response Plans (11)

Water Laboratory Alliance – Response Plan (1)

Full-Scale Exercises to Test WLA-RP

ERLN/WLA Response Plan (1)

Purpose of the WLA-RP

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- Establishes a comprehensive, national approach to laboratory response to intentional or unintentional water contamination incidents
- Can be used to coordinate laboratory response for multi-regional and smaller scale incidents
- Provides guidance on issues such as communication, sample analyses, and data reporting

WLA-RP Key Characteristics

United States Environmental Protection Agency

Provides a consistent approach to laboratory response

- Consolidating the 11 RLRPs provides one plan that can be used by all laboratories
- Provides approach for multi-regional and smaller responses

Focus of laboratory activities guided by the plan

- Water only
- All-hazards approach

Highlights of the WLA-RP

Scope of Laboratory Support

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Types of support laboratories could provide under the plan include:

- Analytical support
- Sharing of resources (staff, reagents, etc.)
- Rapid, on-site training of staff
- Data review
- Sample storage
- Consulting

Roles and Responsibilities

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Analytical Service Requester (ASR)

- Primary point of contact who requests analytical assistance
- Primary decision maker regarding analyses needed, data turnaround times, etc.

Primary Responding Laboratory (PRL)

- Initial laboratory contacted by the ASR
- Help coordinate activities of other support laboratories

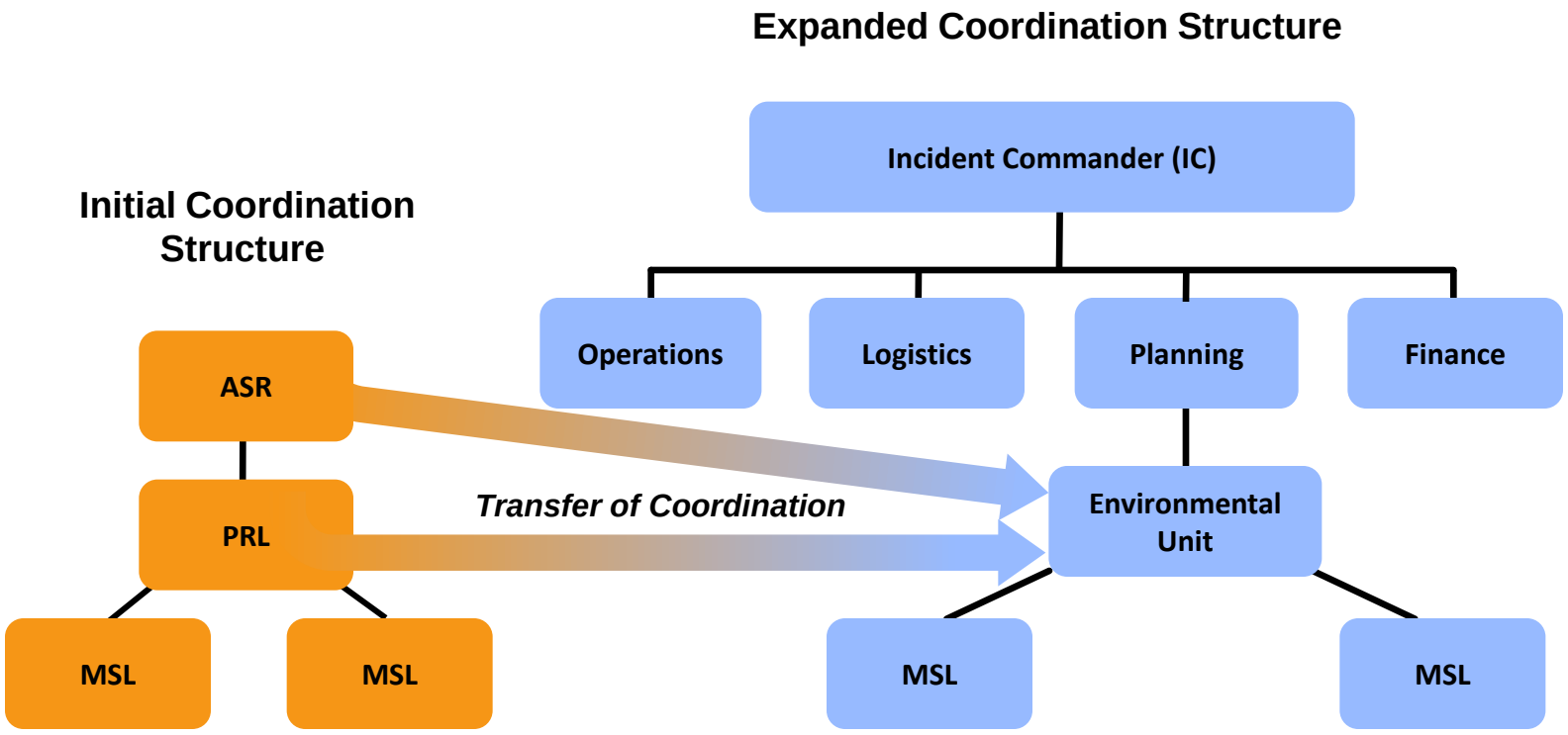
Mutual Support Laboratory (MSL)

- Additional laboratory engaged by ASR or PRL to provide resources to meet the analytical needs of an incident

Laboratory Coordination

United States Environmental Protection Agency

Laboratory coordination within the Incident Command System



Laboratory Communication

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- Lines of communication and information flow should be established at the beginning of the response:

Example: ASR ⇔ PRL ⇔ MSL

- PRL and MSLs should set up a command center
  - Dedicated phone line; someone to answer phone at all times
  - Computer access
  - Fax machine
- Document communications
  - Use forms in the WLA-RP
  - Follow-up conversations with emails

Sample Shipping and Tracking

United States Environmental Protection Agency

Laboratories should be trained in shipping and receipt of hazardous materials

The ASR and PRL/MSL should agree on chain-of-custody (COC) requirements

- Example COC and list of minimum data elements (Appendices G & H)
- Additional guidance on criminal investigation samples (Appendix I)

If sample integrity is compromised during shipping (e.g., holding time or sample temperature exceeded), labs should decide in consultation with ASR whether to receive and analyze samples

Analytical Methods and QC

EPA United States Environmental Protection Agency

Analytical methods

- Provides guidance on Basic Field/Safety Screening, Rapid Analysis, Confirmatory Methods
- Suggests selection of methods is based on monitoring needs, including data turnaround times
- Provides preferred sources for confirmatory methods

Quality Control (QC)

- Emphasizes setting QA/QC requirements based on monitoring needs
- Establishes a minimum set of QC that should be performed for all analyses

Data Review and Data Reporting

United States Environmental Protection Agency

Data Review

- The plan provides guidance for internal review of data
- Any data released prior to completion of internal data review should be labeled "Preliminary Data Pending Confirmation"

Data Reporting

- Data should be submitted in an electronic spreadsheet following the Electronic Data Deliverable (EDD) format
- EDD provides consistent format for data reporting
- Facilitates data validation and compilation of data from multiple labs

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Region 1 and 2 Full Scale Exercise and Lessons Learned

Goals of the Full Scale Exercise

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- Evaluate the multi-regional WLA-RP
- Evaluate the ability of two national laboratory networks to respond to a combined public health and environmental emergency
  - ERLN
  - LRN
- Provide a venue for the ICLN's NCG to evaluate their procedures
- Pilot the use of the validated CDC ultrafiltration device for select agent analysis of drinking water in the lab *and* the field-use of the new portable ultrafiltration device developed by EPA

Purpose of the FSE

EPA United States Environmental Protection Agency

- Practice newly implemented capability for select environmental laboratories to receive and analyze samples for CWAs
- Practice integration of laboratory efforts with ICS structure to support emergency response
- Review the interface of Field/Regional Environmental Unit (EU) and Headquarters EU on data review and reporting, data interpretation, and public messaging
- Test the procedures of CDC's LRN-C and LRN-B

FSE Overview

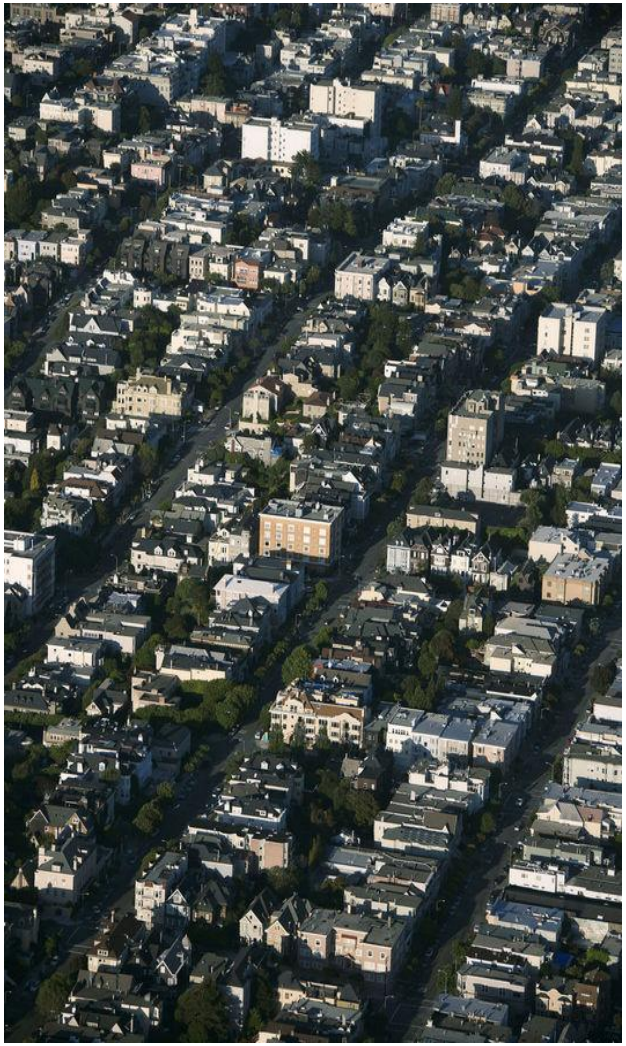
United States Environmental Protection Agency

Chemical Scenario (Environmental and Clinical)

- A light aircraft sprayed an occupied sports stadium with a CWA, and then crashed into a warehouse containing toxic industrial chemicals (TICs)
- Environmental samples were anlyzed for CWAs, CWA degradation products, and TICs
- Clinical component tested for CWA metabolites

FSE Overview, cont.

United States Environmental Protection Agency



Biological Scenario

- A nearby metro area's drinking water distribution system was intentionally contaminated with a bacterial select agent
- Water samples were analyzed using the ultrafiltration device and select agent screening protocol
- Sample collection using the EPA field portable ultrafiltration device

Regions 1 and 2
Full Scale Exercise by the Numbers

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4
Federal agencies: CDC, DHS, EPA, and FBI

12
States

1
WLA-Response Plan evaluated by testing collective laboratory capabilities

>100
Number of "injects" to the exercise made to keep the scenarios moving

17
State environmental and public health/LRN, and CST laboratories

120
Multi-media samples spiked with CWAs, CWA degradation products, and TICs

3
EPA regional laboratories

16
100-L water samples spiked with Select Agents (Biological)

1
Water utility

3
Concurrent scenarios: CWA Environmental, CWA Clinical, Select Agent (Biological)

1
CDC jet being scrambled to transport Chemical Emergency Response Team

Lessons Learned

United States Environmental Protection Agency

- **ICS**
  - Need general guidance on release of information
  - Need multiple individuals to support the EU for major incidents
  - Use tools in WLA-RP to facilitate communication

- **ERLN/WLA**
  - Limited number of laboratories can analyze samples for chemical warfare agents and select biological agents
  - Need standard procedures for handling criminal investigation samples
  - Civil Support Team (CST) field laboratory unable to identify CWA air spike

    * All Hazards Receipt Facility procedures do not work well with dirty samples

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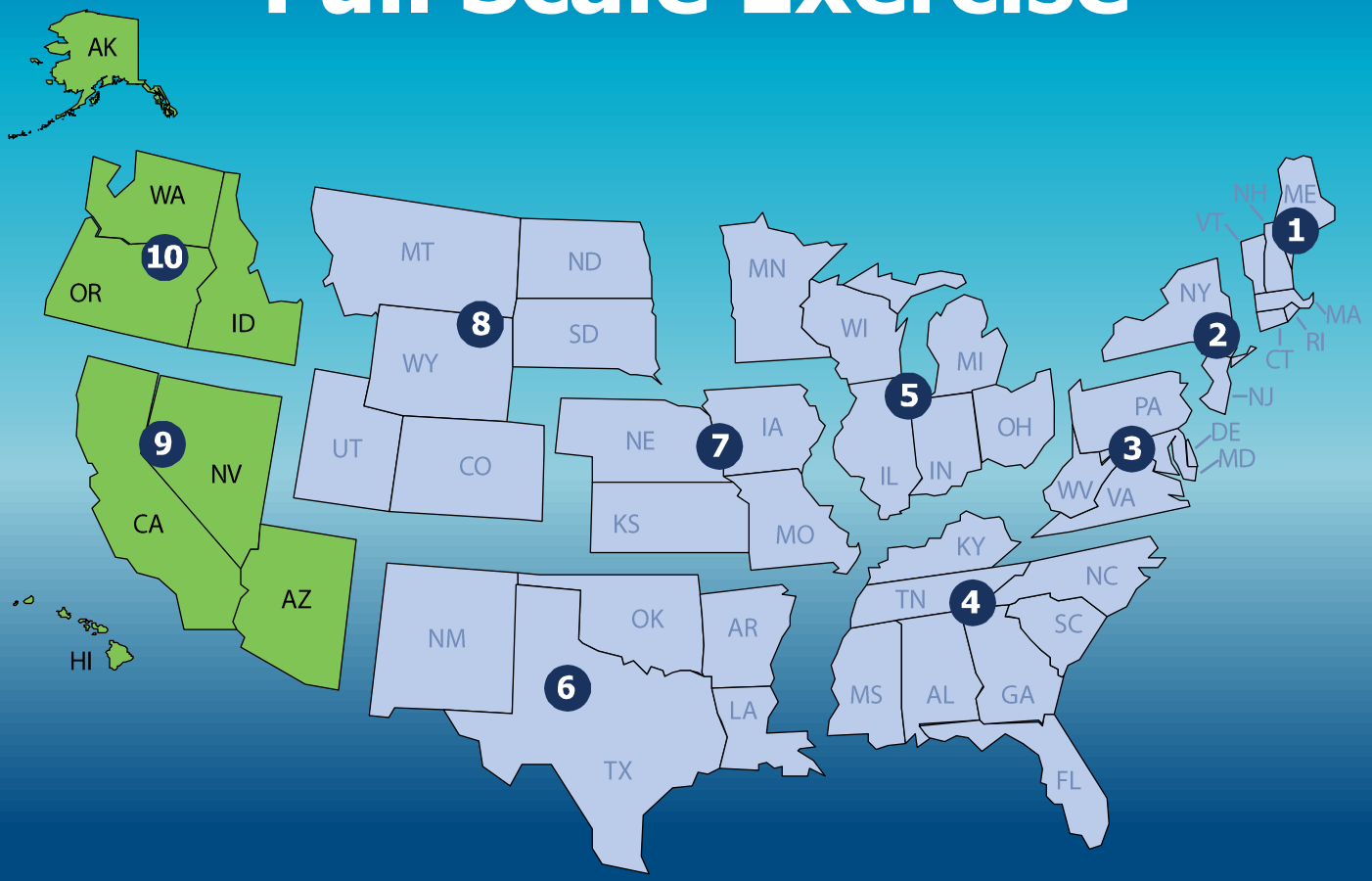
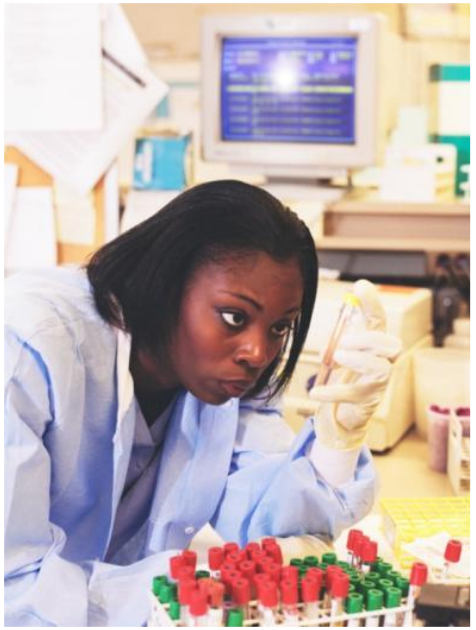
Upcoming Region 9 and 10 Full Scale Exercise



Region 9 & 10 FSE

United States Environmental Protection Agency

- Scheduled for August 20-27, 2010
- Region 9 & 10 laboratories and emergency response groups will participate
- The scenario will include TICs, CWAs, and biological select agents
- Will follow Homeland Security Exercise and Evaluation Program (HSEEP) guidelines



Region 9 and 10 FSE Planning Group

EPA United States Environmental Protection Agency

- EPA Office of Water
- EPA Office of Emergency Management
- EPA Region 1
- EPA Region 9
- EPA Region 10
- CDC
- FBI
- Washington Department of Health
- California Department of Public Health

Goals of the FSE

EPA United States Environmental Protection Agency

- Continued practice and evaluation of the Water Laboratory Alliance (WLA) Response Plan (WLA-RP) procedures
- Evaluate the ability of two national laboratory networks to respond to a combined public health and environmental emergency
  - EPA's Environmental Response Laboratory Network (ERLN) and WLA
  - The Centers for Disease Control and Prevention's (CDC) Laboratory Response Network (LRN)
- Provide the EPA Regions with an opportunity to practice multi-regional coordination during a large-scale contamination incident

Non-Routine Practice Opportunities

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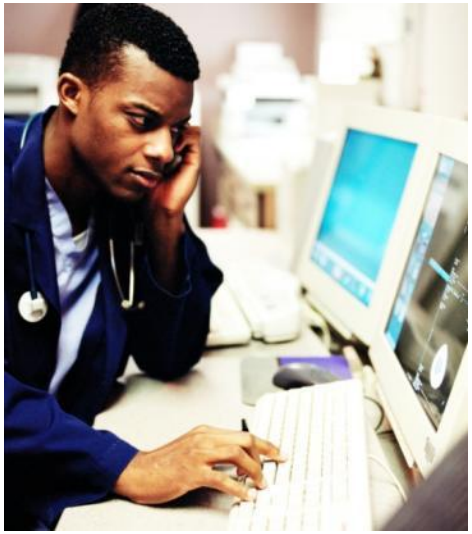
- Integration of laboratory efforts with Incident Command System (ICS) structure to support emergency response
- Test the procedures of CDC's LRN-C and LRN-B
- Test the use of EPA's portable ultrafiltration device



Region 9 & 10 FSE, cont.

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CDC involvement:

- Laboratory Response Network – Biological (LRN-B) will analyze environmental samples for a select agent
- Laboratory Response Network – Chemical (LRN-C) will analyze clinical specimens for chemical warfare agent metabolites
  - CDC will support the clinical portion of the exercise (LRN-C)
  - Recruit laboratories
  - Prepare and ship samples
  - Provide on-site evaluators
  - Receive electronic data

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Future Full Scale Exercises

How can you get involved?

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- **Additional multi-regional full-scale exercises will be held over the next year**
- **Opportunities to participate**
  - State drinking water laboratories
  - Utilities
  - EPA Regions
  - Laboratories
  - Mobile labs/ civil support teams
  - State water programs
  - FBI/Law Enforcement
  - Public Information Officers

EPA regions will be leading recruitment

EPA Regional Contact Information

United States Environmental Protection Agency

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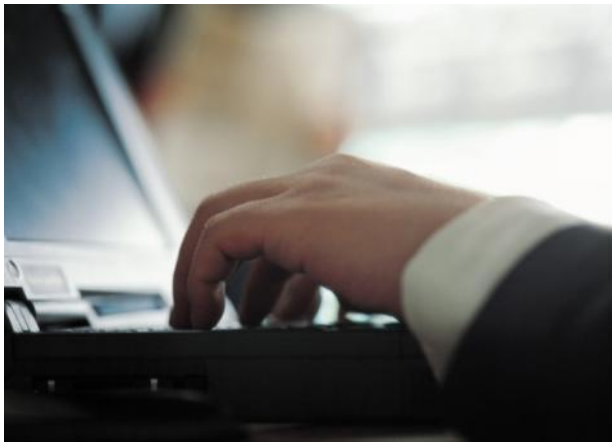
EPA United States Environmental Protection Agency

WLA



For comments and questions on the WLA, please contact:

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- Contact WLA@epa.gov
- ERLN/WLA Helpline: 703-818-4200
- Visit http://cfpub.epa.gov/safewater/watersecurity/wla.cfm